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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,527	07/03/2001	Matthew B. Wall	2767.2001-005	7543
21005	7590	03/09/2005	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			RUTTEN, JAMES D	
		ART UNIT		PAPER NUMBER
		2122		

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/898,527	WALL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	J. Derek Ruttan	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 08 November 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-12 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 08 November 2004 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08/27/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Acknowledgement is made of Applicant's amendment dated 8 November 2004, responding to the 4 August 2004 Office action provided in the rejection of claims 1-11, wherein claims 1, 2, 5, and 7-11 have been amended, no claims have been canceled, and new claim 12 has been added. Claims 1-12 remain pending in the application and have been fully considered by the examiner.
2. Applicant has primarily argued that the claims are not anticipated by the Pahng reference because it does not disclose distributed execution. This argument is not persuasive, as will be addressed under the *Response to Amendment/Arguments* section below.
3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Response to Amendment/Arguments***

4. Applicant's response to the drawing objections is appreciated and overcomes those objections, which are therefore withdrawn.
5. The claim objections have been withdrawn in response to applicant's amendments.
6. Rejection of claims 2-11 under 35 USC 112 2<sup>nd</sup> has been withdrawn in response to applicant's amendments. It is noted that in applicant's response on page 11 paragraph 6, reference is made to claim 10 being dependent upon "now amended base claim 9". However, this is interpreted to be a typo that was meant to read --now amended base claim 12--.
7. Applicant argues on page 12 that the Pahng reference does not disclose distributed execution. In particular, applicant references the originally filed specification page 6 line 24 regarding the DOME framework that "provides distributed storage with non-distributed execution and access." However, this argument is not convincing. Inspection of the Pahng reference reveals distributed execution. See page 1 column 2 second paragraph:

The DDE is a highly heterogeneous environment. Designers, engineering resources, models and activities are not centralized nor concentrated in one location, but rather are distributed among many companies and designers working together over computer networks.

Also, see page 6 column 2 paragraph 4:

The remote modules must be in the form of **distributed modules** capable of communicating via a standard network protocol. A distributed interface is wrapped around the group of standard OME modules (A and B in figure 9) to allow the local and distributed modules to communicate with each other. This distributed module's external interface now offers service calls to and from the remote module. A design problem model sees the distributed module as a separate application that is capable of providing services upon request.

Further, Pahng discloses the use of CORBA for distributed communication (page 7 column 1 paragraph 3). According to applicant's originally filed specification, CORBA is used for communication between "objects in other programs, even if the two programs are written in different programming languages and are running on different computing platforms" (page 7

lines 24-26). As such, CORBA provides a communication interface that is used in Pahng. Clients request object invocations which are performed by the server. The results of the server execution is then sent back to the client for further processing. A further description of CORBA can be found in the cited reference “Advanced CORBA® Programming with C++” by Henning and Vinosky. Therefore, Pahng’s use of CORBA provides distributed execution as well as distributed storage and access.

8. In response to applicant's argument on page 13 that there is no suggestion to combine the Bajaj reference with Pahng, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Bajaj teaches that interpreted execution can be used in a distributed environment through the use of Java (See page 51 column 1 paragraph 1). Bajaj provides motivation in the suggestion that this system would provide support to multiple users. Implementation using Java would provide such broad support.

#### ***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

11. Amended claim 1 recites the phrase, “run on distributed systems in a non-centrally controlled manner.” Applicant cites page 4 lines 10-14, page 6 lines 21-28, and page 23 line 9 corresponding to Fig. 12b in support of this new limitation. However, these citations all refer to distributed execution, and do not discuss distributed control. Further investigation of the originally filed specification did not reveal support for “non-centrally controlled.” This limitation will be interpreted in view of the cited passages as well as the presented arguments on page 12 of the amendment as --distributed execution--.

12. Amended claim 7 recites, “compiled in a non-centrally controlled manner”. Support for this limitation could not be found in the originally filed specification, and the applicant has not provided a citation of support for this limitation in the originally filed specification.

Interpretation of this claim will be made without the amended limitation.

13. Amended claim 8 recites, “interpreted in a non-centrally controlled manner”. Support for this limitation could not be found in the originally filed specification, and the applicant has not provided a citation of support for this limitation in the originally filed specification.

Interpretation of this claim will be made without the amended limitation.

14. Claims 2-12 are rejected as being dependent upon a rejected base claim.

***Claim Rejections - 35 USC § 102***

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by prior art of record “Modeling and Evaluation of Product Design Problems in a Distributed Design Environment” by Pahng et al. (Hereinafter referred to as “Pahng”).

As per claim 1, Pahng discloses:

*A method for mapping business and engineering processes* (page 1 “Abstract”),  
*comprising the steps of:*

*giving users access to a system for generating an emergent model* (page 1 column 2 paragraph 2: “The DDE is a highly heterogeneous environment.

Designers, engineering resources, **models and activities are not centralized** nor concentrated in one location, but rather are **distributed among many companies** and designers working together over computer networks.”; also page 3 column 1

paragraph 4: “The Distributed Object-based Modeling and Evaluation (DOME) framework proposed in this paper uses these principles to provide a flexible environment to model

and evaluate design problems using modules and **distributed modules.**"; also Figure 3 on page 4 and Figure 11 on page 7; Comments: As mentioned on page 6 lines 25-28 of the specification, the reference exhibits the qualities of an emergent model: distributed execution, storage and access.);

*publishing inputs and/or outputs of data objects and/or function objects generated by the users* (page 4 column 1 paragraph 2: "It manufactures gears and, using its in-house mathematical modeling capabilities and software applications, **provides access to modules...**"; also page 7 column 2 paragraph 4: "The relationships amongst modules specify how **outputs** of a module are connected to **inputs** of other modules."); also page 4 column 2 paragraph 4: "The basic building block is the module. A module is capable of **performing calculations** and **providing information** through service calls invoked by its user."; Comments: Publishing inputs and/or outputs is inherent in the use of a module, otherwise an associated module would be unable to anticipate the type of data to submit or the kinds of results to expect. "Providing information" and "performing calculations" are equivalent to "data objects" and "function objects," respectively.);

*subscribing to the published inputs and/or outputs of data objects and/or function objects generated by the users, thereby creating a network of linked inputs and/or outputs of data objects and/or function objects* (page 4 column 1 paragraph 2: "These

distributed design participants and their corresponding modules are **connected** through computer **networks.**");

*analyzing and displaying the network of linked inputs and/or outputs, resulting in a map of the business and engineering processes* (page 9 Figure 15; Comment:

Analyzing is inherent in displaying the network, since the display needs to be able to connect various analyzed modules.);

*wherein the function objects are implemented by computer code that is run on distributed systems in a non-centrally controlled manner* (See page 6 column 2 paragraph 4: "The **remote modules** must be in the form of **distributed modules** capable of communicating via a standard network protocol. A distributed interface is wrapped around the group of standard OME modules (A and B in figure 9) to allow the local and distributed modules to communicate with each other. This distributed module's external interface now offers **service calls** to and from the remote module. A design problem model sees the distributed module as a separate application that is capable of providing **services upon request.**" Comment: Pahng's disclosure of remote modules operate in conjunction with the CORBA standard which provides interfaces for distributed execution.); and

*wherein the data objects and/or function objects generated are used in business and engineering processes* (page 1 column 1 "Introduction": "With the growing

popularity of WWW-based browsers, many **manufacturing companies** are publishing their product information on the Internet. Some Internet-based companies are specialized in providing **design information** for machine part or component manufacturers.”).

As per claim 2, the above rejection of claim 1 is incorporated. Pahng further discloses: *wherein at least a part of the configuration of the network of linked inputs and/or outputs of data objects and/or function objects is predefined and used to determine which inputs and/or outputs are generated on which of the computing devices in the computer network* (page 3 column 1 last paragraph).

As per claim 3, the above rejection of claim 1 is incorporated. Pahng further discloses *wherein a user interface is defined that displays the data objects and/or function objects on a computing device on the computer network using a client process that communicates with a server process wherein the data objects and/or function objects can be viewed on any computing device connected to the computer network* (page 7 column 1 paragraph 3 discusses use of CORBA which inherently provides accessibility using a client/server model.; also page 10 column 1 paragraph 1 and Figure 17).

As per claim 4, the above rejection of claim 1 is incorporated. Pahng further discloses: *wherein the inputs and/or outputs are stored in logical groups* (Figure 3).

As per claim 5, the above rejection of claim 1 is incorporated. Pahng further discloses: *wherein references to the inputs and/or outputs are published using electronic media, print media or human conversation* (page 6 column 1 last paragraph).

As per claim 6, the above rejection of claim 1 is incorporated. Pahng further discloses: *wherein the step of generating the inputs and/or outputs provides an interface mapping for inputs and/or outputs stored in application programs, databases or computer code libraries* (Figure 11).

As per claim 7, the above rejection of claim 1 is incorporated. Pahng further discloses: *wherein the function objects are implemented by computer code that is compiled, dynamically linked and evaluated at runtime* (page 7 column 1 paragraph 2 discloses implementation in C++ which inherently provides code for compilation, dynamic linkage, and runtime evaluation.).

In regard to claim 9, the above rejection of claim 1 is incorporated. Pahng further discloses: *sending or receiving messages between the linked inputs and/or outputs of data objects and/or function objects* (page 5 column 1 paragraph 3 discloses module interaction in terms of compatible interfaces which include inputs and outputs. Sending and receiving messages is inherent in object-oriented system, otherwise objects could not communicate.).

***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pahng as applied to claim 1 above, and further in view of “Web based collaborative visualization of distributed and parallel simulation” by Bajaj et al. (hereinafter referred to as “Bajaj”).

As per claim 8, the above rejection of claim 1 is incorporated. Pahng does not expressly disclose code that it interpreted and evaluated at runtime. However, in an analogous environment, Bajaj teaches distributed execution of code that is interpreted and evaluated at runtime (page 51 column 1 paragraph 1: “Java”). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Bajaj’s interpreted code in Pahng’s modeling system. One of ordinary skill would have been motivated to develop code that is capable of running on a heterogeneous computer platform.

19. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pahng as applied to claim 1 above, and further in view of “Firewalls Complete” by Gonçalves (hereinafter referred to as “Gonçalves”).

As per claim 12, the above rejection of claim 1 is incorporated. Pahng does not expressly disclose wherein the sending or receiving of messages can be enabled or disabled based on predefined criteria. However, in an analogous environment, Gonçalves teaches that messages can be examined based on various criteria and either be allowed or prohibited from further propagation (page 242 “Packet Filtering”). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the message filtering of Gonçalves in Pahng’s message passing system. One of ordinary skill would have been motivated to prevent unauthorized users from accessing sensitive information.

As per claim 10, the above rejection of claim 12 is incorporated. Pahng does not expressly disclose wherein the criteria is based upon message source, message destination or message contents. However, in an analogous environment, Gonçalves teaches that messages can be filtered based on many criteria including message source (page 243 “Source IP address”). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the message filtering criteria of Gonçalves in Pahng’s message passing system. One of ordinary skill would have been motivated to limit the filtering of message only to those situations that require restriction, while allowing valid messages to pass through.

20. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pahng.

As per claim 11, the above rejection of claim 1 is incorporated. Pahng does not expressly disclose read, write, execute and administrative permissions on a per input and/or output basis. However, Pahng further discloses future work including various levels of access control corresponding to different users of the system (page 11 column 1 paragraph 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use specific permission levels in Pahng's modeling system. One of ordinary skill would have been motivated to limit access to various modules to various users so intellectual property and security can be maintained.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571) 272-3703. The examiner can normally be reached on M, T, Th, F 6:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2122

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jdr

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